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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,083	11/19/2003	Wern-Yan Koe	03-0495 1496.00342	7029
24319	7590	08/03/2005	EXAMINER	
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			MISIURA, BRIAN THOMAS	
		ART UNIT	PAPER NUMBER	
		2112		

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/717,083	KOE, WERN-YAN
	Examiner	Art Unit
	Brian T. Misiura	2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 November 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-13 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 19 November 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

Detailed Action

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *McCoskey et al*, U.S. Patent No. 6460108, in view of *Zulian et al*, U.S. Patent No. 6314484.

1. Per claim 1, *McCoskey* discloses:

an apparatus comprising, (column 9, claim 9, first line, (computer system)
a switch, wherein said switch is interconnecting a first bus and a second bus, and is
configured to transfer data in both a first direction and a second direction simultaneously

(column 4 lines 46-56 and figure 2, reference numeral 110).

McCoskey does not disclose a first bus segment and a second bus segment; the first bus segment configured to transfer data in either a first direction or a second direction; and the second bus segment configured to transfer data in either said first direction or said second direction;

However, Zulian discloses: a first bus segment configured to transfer data in either a first direction or a second direction and a second bus segment configured to transfer data in either said first direction or said second direction (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Zulian into the system of McCoskey to disclose a first bus segment configured to transfer data in either a first direction or a second direction; and a second bus segment configured to transfer data in either said first direction or said second direction.

The modification would have been obvious because one having ordinary skill in the art would want to have a first bus segment configured to transfer data in either a first direction or a second direction; and a second bus segment configured to transfer data in either said first direction or said second direction, to provide a more versatile system for

data transfer (Zulian, column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

2. Per claim 2, McCoskey does not disclose the apparatus according to claim 1, wherein said first bus segment is connected to a first plurality of components.

However, Zulian discloses the apparatus according to claim 1, wherein said first bus segment is connected to a first plurality of components (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Zulian into the system of McCoskey to have the apparatus according to claim 1, wherein said first bus segment is connected to a first plurality of components.

The modification would have been obvious because one having ordinary skill in the art would want to have the apparatus according to claim 1, wherein said first bus segment is connected to a first plurality of components, to allow more devices access to the bus (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

3. Per claim 3, McCoskey does not disclose the apparatus according to claim 2, wherein said second bus segment is connected to a second plurality of components.

However, Zulian discloses the apparatus according to claim 2, wherein said second bus segment is connected to a second plurality of components (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Zulian into the system of McCoskey to have the apparatus according to claim 1, wherein said second bus segment is connected to a second plurality of components.

The modification would have been obvious because one having ordinary skill in the art would want to have the apparatus according to claim 1, wherein said second bus segment is connected to a second plurality of components, to allow more devices access to the bus (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

4. Per claim 4, McCoskey discloses the apparatus according to claim 1, wherein said switch comprises a first portion configured to transmit data in said first direction and a second portion configured to transmit data in said second direction (column 4, lines 5-

10, and 46-56, figure 2, reference numeral 110).

5. Per claim 5, McCoskey discloses the apparatus according to claim 4, wherein said first portion comprises a first plurality of memory cells and said second portion comprises a second plurality of memory cells (column 7 lines 14-20, 55-61, figure 5).
6. Per claim 6, McCoskey discloses the apparatus according to claim 1, wherein said switch comprises a cross switch (column 1 lines 24-25 (bus bridge), column 4 lines 46-56 and figure 2, reference numeral 110).
7. Per claim 7, McCoskey discloses the apparatus according to claim 4, wherein said first portion comprises a first buffer and said second portion comprises a second buffer (column 7 lines 1-3, lines 49-51, figure 5, reference numerals 114 and 116).
8. Per claim 8, McCoskey discloses the apparatus according to claim 1, wherein said first bus segment operates at a first frequency and said second bus segment operates at a second frequency (column 8 lines 24-28, figure 2).
9. Per claim 10, McCoskey discloses the apparatus according to claim 8, wherein said first frequency is greater than said second frequency (column 8 lines 24-28, and figure 2).

10. Per claim 11, McCoskey discloses the apparatus according to claim 1, wherein said switch comprises a first control portion and a second control portion configured to control accesses to said first and second bus segments (column 4 lines 44-45, column 7 lines 32-33 and lines 38-42, figure 2, reference numerals 130, 132, 134).

11. As per claim 12, McCoskey discloses an apparatus comprising: first means for transferring data in either a first direction or a second direction (column 2, lines 25-28, figure 1, reference numeral 40); second means for transferring data in either said first direction or said second direction (column 2, lines 25-28, figure 1, reference numeral 30); and third means coupled between said first and second transferring means for transferring data in both said first direction and said second direction simultaneously (column 2, lines 23-42, figure 1, and column 4 lines 46-56 and figure 2, reference numeral 110 (simultaneously)).

12. As per claim 13, McCoskey discloses a switch, where in said switch is configured to transfer data in both said first direction and said second direction simultaneously (column 4 lines 46-56 and figure 2, reference numeral 110).

McCoskey does not disclose the switch connected between said first bus segment and said second bus segment; transferring data in either a first direction or a second direction on a first bus segment, or transferring data in either said first direction or said second direction on a second bus segment.

However, Zulian discloses: transferring data in either a first direction or a second direction on a first bus segment and transferring data in either said first direction or said second direction on a second bus segment (column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Zulian into the system of McCoskey to disclose the switch connected between said first bus segment and said second bus segment, transferring data in either a first direction or a second direction on a first bus segment and transferring data in either said first direction or said second direction on a second bus segment, to provide a more efficient system for data transfer (Zulian, column 1 lines 50-57 and column 2 lines 1-4, figure 1 reference numerals 105, B1-B4).

Claim 9 is rejected under 35 U.S. C. 103 (a) as being unpatentable over McCoskey et al, U.S. Patent No. 6460108, in view of Zulian et al, U.S. Patent No. 6314484, further in view of Riley et al, U.S. Patent No. 6816934.

13. Per claim 9, neither McCoskey nor Zulian disclose said first frequency is equal to said second frequency.

However, Riley discloses a first bus frequency equal to a second bus frequency (column 51, lines 29-52).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Riley into the system of McCoskey and Zulian to have the first frequency being equal to said second frequency.

The modification would have been obvious because one having ordinary skill would want to have equal bus frequencies in certain situations (column 51, lines 29-52).

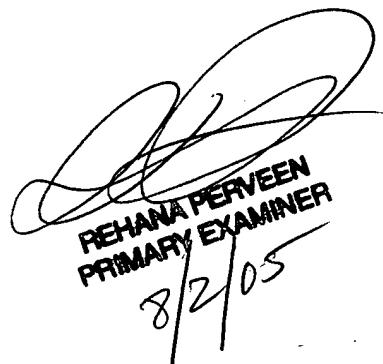
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Misiura whose telephone number is (571) 272-0889. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTM



REHANA PERVEEN
PRIMARY EXAMINER
8/2/05